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Disneyland Paris and Futuroscope case studies

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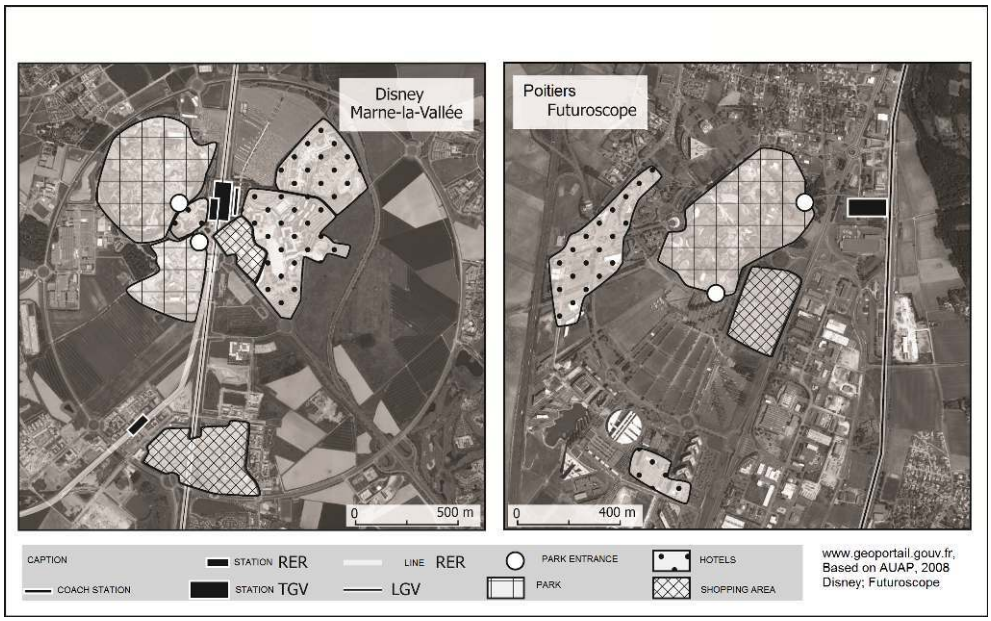
Introduction

1 Transport is considered a need for tourism since, by definition, the tourist is a traveller[1]. "Transport forms an integral part of the tourism system, connecting the tourist-generating and destination region together [...]. Transport is the most critical element in the promotion of the growth of domestic and international tourism" (Page, 2007, p. 13, 111). But its role has often been overlooked, considering that "little serious research has been undertaken into the significance of transport as a factor in destination development" (Prideaux, 2000, p. 54). The lack of empirical studies generates many expectations in the cities served by high-speed rail (HSR) in several countries in terms of tourism development (Delaplace *et al.*, 2014a; 2014b): the expected increase in the accessibility of a destination would lead to an increase in transport demand and therefore to an increase in tourism itself. However in the literature there is a lack of contributions

of ex post studies (Bazin-Benoit and Delaplace, 2013) as well as on the way HSR affects destination choice. Moreover we can expect that the link between HSR and the tourism market depends on the type of tourism (Bazin *et al.*, 2011).

2 The aim of this paper is to identify the extent and the nature of the relationship between HSR and destination choice in the case of theme parks at two levels, namely the parks themselves but also other places. Theme parks are tourist specific places that can be considered "stay tourism", (in contrast with "circuit tourism") that is, a kind of tourism with a unique motivation (Gay, 2004) and in a given area. In this case it is expected that the link between a given HSR station and a theme park is stronger when the HSR station is closer to tourist facilities and even stronger when it is conceived for the tourist structure itself (Delaplace and Perrin, 2015). However the question is also to investigate if tourists coming to these theme parks by HSR are also visiting other nearby places or places connected by HSR. The objective is to test whether there is a "diffusion" process bringing benefits to other tourist places closer to the parks. Two theme parks, Disneyland® Paris and Futuroscope Park that are both served by an HSR station, Marne-la-Vallée-Chessy and Futuroscope TGV respectively, have been considered as case studies in this contribution (see Figure 1).

Figure 1. Disneyland Paris and Futuroscope and their HSR stations.



SOURCE: MODIFIED FROM DELAPLACE AND PERRIN (2015)

3 The rest of this paper is organized as follows. Section 2 presents a review of the literature concerning HSR services and tourism and specifically destination choice and the characteristics of theme parks. Section 3 focuses on the two theme parks, their products and their location and section 4 highlights the differences concerning the links between HSR and theme parks. Conclusions are reported in section 5.

HSR, tourism and theme parks: what is the link?

4 There is a growing literature concerning the link between HSR and the tourism market in many countries (Albalate and Fageda, 2016; Delaplace *et al.*, 2014a,b; Coronado *et al.*, 2013; Mimeur *et al.*, 2013; Delaplace and Perrin, 2013; Bazin *et al.*, 2013, 2014; Mannone, 1995; Masson and Petiot, 2009; Wang *et al.*, 2012; Chen *et al.*, 2012; Chen, 2013; Pagliara *et al.*, 2015a.b; see Bazin-Benoit and Delaplace, 2013, for a review). Expectations concerning economic impacts following the opening of an HSR line are usually high. However *ex post* analyses show that the link between HSR service and tourism depends on the type of tourism (Bazin *et al.,* 2011). Indeed the different types of tourism differ in their length of stay, purposes and transport modes chosen by tourists. The literature shows that urban and business tourism can benefit from HSR services because they are short tourist stay demanding for rapid transport. However even in this case, the effects of HSR services on tourism are controversial.

5 The studies conducted after the inauguration of HSR services show that, only in some cases, its presence fosters urban and business tourism. This trend depends on the accessibility change, on promotion policies and on collaborative strategies (Bazin-Benoit and Delaplace, 2013). Moreover in many cases, this can be observed only in the short term and the HSR opening can also induce a decrease in the length stay. Finally its promotion is more difficult in small and medium-sized cities (Bazin *et al.*, 2013a). However, it is demonstrated that it can be used as a tool for enhancing the tourist heritage value (Bazin *et al.,* 2014).

6 Few studies have investigated the role of HSR service in tourists' destination choice. A survey was carried out in 2012 in Paris in few attraction sites and at the Lyon HSR station, to identify whether the HSR services could influence the choice of the destination for tourists and the probability of coming back. Delaplace *et al.* (2014) demonstrate that rail service affects 49% of the respondents, after the heritage and architectural sites. On the other hand, the analysis carried out by Valeri *et al.* (2012) in Rome reports different results: HSR services do not affect the choice of revisiting Rome, but influence the probability of visiting other closer cities served by HSR. The analyses carried out in Madrid (Pagliara *et al.*, 2015b) and in Naples (Pagliara, 2014) show the same results. Other recent studies analyse the impact of HSR on coastal destinations in Costa Daurada and show that some tourists would not have reached the destination without the presence of an HSR service (Saladié *et al.*, 2016).

7 The premise of this manuscript is that the study of the relationship between HSR and destination choice of theme parks has not been treated in the current literature. Therefore this contribution aims at providing useful insights for public stakeholders and rail operators in their decision to invest in HSR stations.

8 Theme parks are very interesting cases, because they induce specific forms of tourism for which transportation is relevant. Theme parks are a kind of amusement parks based on a specific theme that allow having fun and relax. Some parks can also be useful for education purpose. Theme parks development occurs all over the world, in both developed and less developed countries. In his book on the global theme park industry, Anton Clavé (2007) identifies 12 characteristics of theme parks. Two of them are of interest for our purpose. Firstly "*they are organized as closed spaces or with controlled access*", secondly "*they contain enough rides, shows and systems of movement to create a visit that lasts*

on average some 5 to 7 h" (Anton Clavé, 2007, p. 28). Even if parks' managers try to make tourists stay for a longer time, theme parks are conceived for short tourist stay and consequently need a rapid transportation mode to reach them. They can be defined as "stay tourism" (see above). From this point of view, the study of the interactions between the theme park and the HSR service seems to be relevant. The impact of transportation on this kind of park expansion is reported in Anton Clavé's (2007) work, mainly focusing on the question of increased accessibility. Medium- and long-distance transport modes influence the number of visitors, being potential customers of the park. Local transport modes can influence the number of visitors in the neighbourhood. Low accessibility to these places is considered a negative factor (Pikkemaat and Schuckert, 2007). However other characteristics can also affect the choice of HSR. Theme parks are tourist destinations for families, who can estimate less expensive to travel by car.

9 Moreover, as a "stay tourism", theme parks are assumed to make tourists stay in a kind of oasis (Lukas, 2008) and consequently to limit the diffusion process of tourists around the park. Empirical evidence on these aspects is needed and this paper tries to fill this gap present in the literature.

Disneyland Paris and Futuroscope: the case studies

10 Disneyland Paris and Futuroscope near Poitiers, considered the most important parks[2] in France, have been chosen as case studies. Futuroscope was opened in 1987, while Disneyland was opened five years later in 1992. In 2013 and since their opening, Disneyland Paris Parks have hosted 250 million of visitors, while Futuroscope has been visited by about 46 million since 1987.

Disneyland and Futuroscope: Two theme parks with an HSR station…

11 According to SNELAC[3], Dinseyland and Futuroscope are attraction parks, offering recreation activities but also education through entertainment.

12 Disneyland Paris is a theme park, which is based on the Disney's world. Unlike Disneyland Resort in Anaheim, California, it was totally designed before becoming a park. It is actually made up of two parks (with the Walt Disney Studios Park), hotels, and entertainment and a retail centre, all of them based on the Disney's world, with Disney attractions, Disney stores, etc.

13 Futuroscope is also a theme park but it is quite different since it represents a multimedia attraction and a new technology-based theme park. It is linked to a technological park "Futuroscope Technopole" which focuses on digital technologies. It is more oriented to education and this characteristic is assumed to induce a generated demand. It is less known but some attractions are well-known, including Arthur, the 4D Adventure or more recently the Raving Rabbids' ("Lapins crétins") Time Machine.

14 Disneyland Paris and Futuroscope are both served by an HSR station (Figure 1). In both case studies, the park entry is located just near the HSR station, whose main function is to serve the park themselves. Both stations considered «stations for tourist equipment» (AUAP, 2008; Troin, 2008; Facchinetti-Mannone and Richier, 2011) were requested by the parks' managers and sometimes by local actors.

15 Marne-la-Vallée Chessy station was built in 1994, i.e. two years after the opening of the first Park Disneyland. For Disneyland Paris managers, this station was very important with the aim of attracting more foreigner tourists arriving by train. For this reason, Disneyland Paris has funded one third of 126.5 million of Euros needed to build the station. For Disney's managers, HSR represents an important transport mode for reaching the park. In 2000, they considered that the HSR station was a key element since the previous year 59% of their clients were foreigners[4].

16 Futuroscope TGV station was built with the financial support of the Vienne department[5] for 9.3 million of Euros in 2000, i.e. 13 years after the opening of the park. The station belongs to this department, which pays for the operational and maintenance costs. For the Vienne department, the station seems to be important for both the theme park and the technological park, located near the former park in 1987.

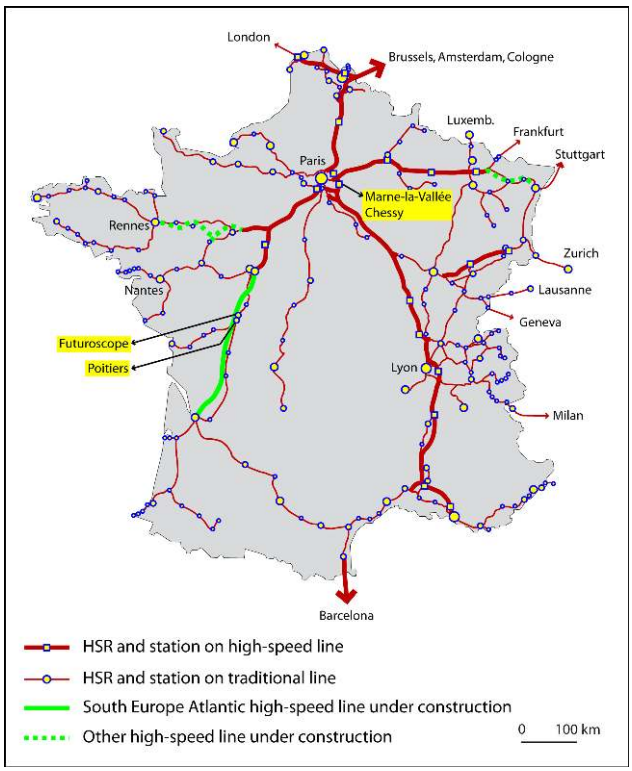
… But very different neighbourhoods and different transport infrastructures

17 Futuroscope is located near Poitiers which is a medium-sized city with 254,051 inhabitants in the urban area[6] in 2011. Poitiers is the capital of Poitou-Charentes region, which has 777,773 inhabitants, in an area of 25,810 km^2. At the same date Paris urban area had 12.3 million of inhabitants.

18 It is interesting to remember that Paris is the first tourist destination in France. For instance, in 2013, there were 67.4 million stays in hotel in the Ile-de-France region, while only 4.6 million in the Poitou-Charentes region (INSEE data)[7]. Paris is also one of the first tourist destination in the world[8]. Consequently the market area of the two parks is very different.

19 Concerning the service, Disneyland is served by a station located on the high-speed line (HSL), whereas Futuroscope is served by a station on the traditional rail network (Figure 2). In France, high-speed trains (HSTs) are also operational on classical tracks: in 2012, HSTs were serving only 20 HSR stations located on HSL against 197 stations located on classical tracks.

Figure 2. The French high-speed rail network.



Source: adapted from Wikipedia Commons

20 Marne-La-Vallée-Chessy station is a so-called as "interconnection station", i.e. HSR services calling at this station are not radial services from/to central Paris. They usually link French HSR stations located in other regions (Lille, Nantes, Reims Champagne-Ardenne station, Meuse station, Lorraine station, Strasbourg, Lyon, Aix-en-Provence, Montpellier, Nîmes, Avignon, Marseille) sometimes via other peripheral stations located on the Parisian HSR by-pass (Roissy Charles de Gaulle Airport and Massy stations).

21 Marne-la-Vallée-Chessy is also the terminal station of the so-called Ouigo low-cost HSR operated by SNCF since April 2013 (Delaplace and Dobruzskes, 2015)[9] and some international ones to/from London.

22 This station is also served by the RER A, a regional express train which runs from Marne-la-Vallée-Chessy to central Paris, La Défense and beyond.

23 Futuroscope station is connected to Paris Montparnasse station, to the peripheral stations on the Parisian by-pass (Massy, Marne-la-Vallée-Chessy, Roissy Charles de Gaulle airport) and to some French cities and HSR stations (Lille, Strasbourg, Reims, Champagne-Ardenne station, Meuse and Lorraine TGV). With the forthcoming South Europe Atlantic HSL, the French government and RFF[10] were committed in 2009 to maintain a high quality service for currently served cities. Following an agreement that ensures the service to be preserved in the future, the Futuroscope (but also the Chatellerault city) would still be served[11]. Unlike Disneyland Paris and until December 2014, it was only accessible by car and by bus from Poitiers[12].

24 The services analysis (Table 1) shows that Marne-La-Vallée-Chessy station is characterized by an excellent and more direct service than Futuroscope with 87 trains

per day, against five HSTs for the Futuroscope. Moreover transport infrastructures in Marne-La-Vallée-Chessy are also more important than in Futuroscope.

Table 1. Transport infrastructures in Disneyland Paris and Futuroscope.

	Marne-la-Vallée Chessy Station	**Futuroscope TGV Station**
Opening	1994	2000
Previous HSR service	Paris Gare de Lyon (since1981) Paris Gare Montparnasse (since 1989) Paris Gare du Nord (since 1993)	Poitiers city station (1990)
Position of the station in relation to the line	On a new high-speed line bypassing central Paris	On radial, conventional line (100 km from the high-speed line from Paris to the south of Tours)
Type of HSR services	Inter-regional services (including international services) and Ouigo (high-speed, low-fare train)	Services on the axis Paris-Bordeaux + inter-regional (France North and East)
Number of HSR services per day and Destinations	87[13] (Bruxelles, Londres et Roissy Charles de Gaulle Airport, Lille, Nantes**, Reims, Meuse, Lorraine, Strasbourg**, Lyon*, Aix en Provence*, Montpellier***, Nîmes***, Avignon*, Marseille*)	5 (Massy, Marne la Vallée Chessy, Roissy Charles de Gaulle, Reims, Champagne-Ardenne station, Meuse and Lorraine TGV, Bordeaux**, Lille, Strasbourg**, Paris)[14]
Others transport infrastructures	RER A Bus station CDG Airport (231 destinations in the world)[15] Highways A1 and A4	Until the end of 2014 TER (regional train) only in Poitiers Bus Poitiers-Biard Airport (5 direct destinations, whose 4 to international destination)[16] Highway A10
Park proximity	Immediate vicinity	Walkable gateway

*** OUIGO INCLUDED.**
**** HSR BUT NO HSL THOUGH.**
Source: Authors' elaborations

Disneyland Paris and Futuroscope: looking for HSR driven effects

Data and methods

25 In order to collect information concerning the destination choice to the two parks and the willingness to visit other places in their surroundings, two revealed-preference (RP)

surveys were carried out during the two weeks in 2013 All Saints' holidays. The chosen places were Marne-la-Vallée-Chessy near the HSR station, at the bus station and close to the hotels and at Futuroscope, inside the park, near the park entrance and on the road between the park and the hotels, which is close to the HSR station (Figure 1).

26 People reaching the two parks were all tourists (travelling for leisure or business tourism), i.e. they did not come from the regions where the parks are located (namely, Ile-de-France regarding Disneyland and Poitou-Charentes regarding Futuroscope). The sample was chosen randomly. 564 valid questionnaires were collected in Disneyland Paris and 433 in Futuroscope.

27 A logistic regression approach has been used to analyse the data. The literature on logistic regression is large and rapidly growing since 1970. Proposed to overcome the limitations of ordinary least square regression in handling dichotomous outcomes (Peng and So, 2002), this methodology has been consolidated overtime and has become an integral component of any discrete data analysis (Agresti, 2002; Allison, 1999; Kleymann and Seristö, 2004; Schlesselman, 1982). Models using logistic regression have been extensively applied to tourism demand analysis (Witt and Witt, 1995) especially when studying the decision to go/not-to-go on holidays.

28 In the simplest case where there is one predictor variable X only and one dichotomous outcome variable Y (binary case), the logistic model predicts the logit of Y from X (Peng and So, 2002). With reference to qualitative response variables, as in our case, logistic regression generates the probability to observe a specific aspect (k) of Y given X (P(Y)=k/X or πk(X)), following a binomial distribution of the error term.

29 Two models, using this approach, were specified and calibrated respectively for Disneyland and Futuroscope.

30 The logistic regression specification is in the following reported:

$$ln\left(\frac{\pi}{1-\pi}\right) = log(odds) = logit = \alpha + \beta x \quad \text{(Eq 1)}$$

$$\pi = Prob(Y = outcomeofinterest/X = x) = \left(\frac{e^{\alpha+\beta x}}{1+e^{\alpha+\beta x}}\right) \quad \text{(Eq 2)}$$

$$\frac{ln\pi}{1+\pi} = \alpha + \beta_1 x_1 + \beta_2 x_2 \ldots . \beta_k x_k \quad \text{(Eq 3)}$$

$$\pi = Prob\left(Y = \frac{outcomeofinterest}{x_1} = x_1, X_2 = x_2, \ldots X_k = x_k\right) = \left(\frac{e^{\alpha+\beta_1 x_1+\beta_2 x_2 \ldots \beta_k x_k}}{1+e^{\alpha+\beta_1 x_1+\beta_2 x_2 \ldots \beta_k x_k}}\right) \text{(Eq 4)}$$

Socio-economic characteristics of the tourists

31 Different socioeconomic characteristics and the role of HSR in the destination choice have been analysed in both case studies.

32 The customers of the two parks are very different. Disneyland is characterized by foreign tourists (37%), while only 4% for the Futuroscope. In the case of Futuroscope more than 22% of the tourists came from Paris (Table 2).

Table 2. Origins of Disneyland and Futuroscope clients.

Disneyland Paris	%	**Futuroscope**	%
-	-	Paris area	22.2%
France outside Paris	63%	Neighbouring region	18.9%
		Other French regions	55.2%
Other countries	37%	Other countries	3.7%

Source: authors' elaborations based on the surveys in 2013

33 Table 3 shows that Disneyland and Futuroscope customers are mostly represented by women 71% and 60% respectively. For couples it is the same in both cases (87% in Futuroscope, 84% at Disneyland). 77% of the tourists visiting Futuroscope hold a university degree (higher education), while 66% in the case of Disneyland.

Table 3. Socio-economic characteristics of the two samples.

	Disneyland Paris		**Futuroscope**	
Gender	**539**		**433**	
Man	158	29%	175	40%
Woman	381	71%	258	60%
Marital Status	**539**		**433**	
Couple	85	84%	376	87%
Single	454	16%	57	13%
Age	**505**		**429**	
18-25	39	8%	42	10%
26-45	387	76.6%	201	46.9%
46-65	73	14%	150	35%
>65	6	1%	36	8%
Level Of Education	**564**		**415**	

Higher Education	378	67%	321	77%
No higher education	186	33%	94	23%

Source: authors' elaborations based on the surveys in 2013

34 The customers visiting Futuroscope present a higher occupational status. Similarly, they have much higher income 48.7% against 37.4% (Table 4) and they are also older in the Futuroscope case study. The percentage of clients with a low income (between 500 and 1,500 Euros) is 2.5 times higher in Disneyland (11.6%) than in Futuroscope (4.2%). Similarly, the unemployed are twice times higher in the case of Disney.

Table 4. Socio-economic characteristics of the samples[17].

	Disneyland Paris		**Futuroscope**	
	Tot	**%**	**Tot**	**%**
Monthly Income	**413**		**380**	
<500	8	2%	8	2%
500-1500	48	11.6%	16	4.2%
1500-2500	83	20%	67	18%
2500-3500	121	29,3%	102	26.8%
3500-4500	77	19%	93	24%
>4500	76	18.4%	94	24.7%
Professional Status	**446**		**419**	
Farmer	38	9%	6	1%
Freelance [18]	81	18.2%	32	7.6%
Manager and High Occ		0%	133	32%
Intermediate Occ	67	15.0%	49	11,7%
white collars	184	41%	128	31%
Blue collars	8	1.8%	15	3.6%
Retired	11	2%	31	7%
Unemployed	57	12.8%	25	6.0%

Source: authors' elaborations based on the surveys in 2013

35 The analysis concerning the transportation modes chosen to reach both parks shows that the link between the park attendance and HSR seems to be more important in Disney than in the Futuroscope case study. While 46% comes by HSR to Disneyland, they are only 14% in Futuroscope (Table 5).

Table 5. Transport mode chosen.

	Disneyland Paris				**Futuroscope**			
Transport mode	**All**		**French Tourists (63%)**	**Foreign Tourists (37%)**	**All**		**French Tourists (96%)**	**Foreign Tourists (4%)**
HSR	260	46%	55%	30%	59	14%	13%	19%
Car	178	32%	32%	30%	350	81%	82%	63%
Plane	79	14%	4%	32%	4	1%	1%	6%
Bus	17	3%	2%	5%	20	5%	4%	13%
Train	4	1%	1%	0%	0	0%	0%	0%
Other	27	5%	6%	3%	-	-		
Total	565	100%	100%	100%	433	100%	100%	100%

Source: authors' elaborations based on the surveys in 2013

36 Two interdependent factors could explain this gap: the location of the Futuroscope Park in a more rural area and the lower level of service in terms of both destinations range and frequencies due to the fact that Futuroscope is not served by many high-speed lines.

37 In Futuroscope, 81% tourists came by car (against 32% in Disneyland). Moreover, while 55% of French tourists are using TGV in the case of Disneyland, they are only 13% in the Futuroscope case. The percentage is also different concerning foreigners. 30% of the foreigners used it in the case of Disneyland (against 19% in the Futuroscope case). Unexpectedly for Disneyland Park managers, it seems that HSR is more used by French tourists than foreigners.

Do HSR services affect the choice of visiting Disneyland and Futuroscope?

38 Two models, using the logistic regression approach, were specified and calibrated respectively for Disneyland and Futuroscope. It is important at this stage to state that these models were introduced with the objective of **computing the probability** (Y) **of choosing a destination (a theme park) and the impact of HSR on this choice**. While the choice of a destination is also influenced by the transport mode to reach it, here the focus is on analysing whether HSR has an impact on this choice. Different is the case of a

mode choice model which should have been specified considering different transport mode alternatives, with different attributes.

39 The modelling process allows highlighting the variables that are considered significant in the destination choice[19] and among them the impact of HSR on reaching each Park is underlined. These variables are the independent ones (Table 6).

Table 6. Variables specification.

NO_HSR_NO_COME	Equal to 1 if the tourist would not come without the HSR service; 0 otherwise.
DEP_ STATION_ACCESS	Equal to 1 if the departure station accessibility has influenced the tourist in the choice of the transport mode.
TRANSP_COST	Equal to 1 if the cost has influenced the tourists in the choice of the transport mode.
TRAVEL TIME	Equal to 1 if the travel time has influenced the tourist in the choice of the transport mode.
FREELANCE	Equal to 1 if the tourist is a freelance; 0 otherwise.
ORGANIZED_GROUP[20]	Equal to 1 if the tourist is travelling with a organized group; 0 otherwise.
ACCESSIBILITY	Equal to 1 if the tourist has come to the park thanks to the easy access; 0 otherwise.
TRANSP_PROMO	Equal to 1 if the tourist has come to the park thanks to the promotional offers concerning the transportation service; 0 otherwise.
TRAVEL_ FAM_NB	Number of family members accompanying the tourist
ORGANIZED_TRAVEL	Equal to 1 if the tourist has organised his/her journey with a package including the mode of transport; 0 otherwise.
ACESS_HSR SERVICE	Equal to 1 if the accessibility of the service has influenced the tourist in the choice of transport mode; 0 otherwise.
FLEXIBILITY_HSR SERVICE	Equal to 1 if the flexibility of the service has influenced the tourist in the choice of transport mode; 0 otherwise.

40 Models estimation results are reported in Tables 7 and 8 for the case of Disneyland and Futuroscope respectively. The T-value test has been done with a risk of error of 5%, i.e. P-value equal to 0.05. When the t-value is greater than 1.96 it means that the variable is significant and therefore it has an impact.

Table 7. Estimation results for the Disneyland Park at 5%.

Dependent variable: probability of visiting Disneyland			
Variable	**Coefficient**	**T-value**	**VIF**
NO_HSR_NO_COME	0.272	8.541	1.294
DEP_ STATION_ACCESS	0.495	15.346	1.328
TRANSP_COST	0.114	3.925	1.066
SPEED_OF_JOURNEY	0.084	2.760	1.193
FREELANCE	0.061	2.172	1.019
ORGANIZED_GROUP	-0.063	-2.174	1.055
ACCESSIBILITY	0.084	2.824	1.136
TRANSP_PROMO	0.072	2.511	1.060

Source: authors' elaborations based on the surveys in 2013

Table 8. Estimation results for Futuroscope at 5%.

Dependent variable: probability of visiting Futuroscope			
Variable	**Coefficient**	**T-Value**	**VIF**
NO_HSR_NO_COME	-0.550	-15.684	1.145
TRAVEL_ FAM_NB	-0.015	-3.017	1.271
ORGANIZED_TRAVEL	0.793	6.681	1.106
TRANSP_PROMO	0.154	3.382	1.264
FLEXIBILITY_HSR SERVICE	-0.070	-4.398	1.088
ACCESS_HSR SERVICE	0.686	21.638	1.307

Source: authors' elaborations based on the surveys in 2013

41 This stage of model estimation adds significant and additional contributions to the survey analysis since it provides statistical inferences. Moreover the weight of each variable on tourists' choices is caught. The models show that tourists who come to Disneyland by HSR would not have come without it while tourists coming to Futuroscope by HSR would still have come without this service[21]. The models also show that the customers of Disneyland and Futuroscope came by HSR due to promotional offers concerning the transport mode[22] . However, those of Disneyland also came thanks to the travel time and travel cost considerations. One quarter of tourists came with Ouigo, the SNCF's low-cost HSR service

(see Delaplace and Dobruszkes, 2015). Moreover the accessibility to the departure station is significant only for the Disneyland tourists.

42 Tourists that are more likely to use HSR to go to Disney for tourism purpose are freelance and are not travelling with an organized group. In the Futuroscope case study, tourists that are more likely to use HSR travel with an organized travel or with few members of their family. When choosing HSR the limited family size is important only for Futuroscope (respectively 1.4 teenagers and 1.2 children).

43 It is also interesting to note that tourists who visited Futuroscope did not come by HSR due to a lack of flexibility even if the presence of this service influenced their coming.

44 These results confirm Table 5 in the way that HSR is important for Disneyland and not for Futuroscope and different are the reasons. First, Futuroscope station is not directly served by a HSL and the service is very low at Futuroscope station compared to the one of Marne-la-Vallée station (Table 1). Second, as reported above, in Marne-la-Vallée station, one quarter of tourists came with Ouigo while Futuroscope is currently not served by this low-cost HSR. Third, concerning Futuroscope, 74.1% of the visitors came from the neighbouring regions (18.9%) or from other French regions (55.2%). In both cases, HSR cannot be used to reach Futuroscope, or in most cases, not convenient due to a connection in Paris.

All these considerations support the little impact on destination choice concerning the Futuroscope Park. It is likely that the socioeconomic characteristics concerning the types of tourists and the geographical characteristics are the most relevant elements explaining this trend.

Does accessing theme parks by HSR induce visiting other places?

45 Another key aspect is the behaviour of the tourists in Disney and Futuroscope concerning their visiting other places in the aftermath. If HSR can play a role in fostering tourism in a park, the question is also to know if it supports the diffusion process of tourists around the parks and if so under what conditions. For local policy makers, it is interesting to investigate this aspect due to their expectations concerning the impact of HSR on tourism expansion in their territories. The hypothesis is that HSR could limit the diffusion process of tourists if no other public transportation alternative exists at the HSR station and if tourism sites are widespread.

46 The data shows that there are important differences between the two case studies (Table 9).

47 First, the analysis shows that tourists visiting Disney, who visited other destinations outside the metropolitan area of Paris, are very few and in the “Seine et Marne” department (respectively only 2% and 1%).Tourists visiting Futuroscope, who visited other destinations outside the Poitou-Charentes region, are more numerous (17%) and more oriented towards the choice of the car (93% from them).[23]

Table 9. HSR and visiting other places.

	Disneyland Paris	**Futuroscope**

All the Sample	Tot	%	Tot	%
Visiting other places in the department	8	1%	58	13%
Visiting other places in the region	138	24%	65	15%
Visiting other places outside the region	9	2%	73	17%

Source: authors' elaborations based on the surveys in 2013

48 Concerning the closeness, there is also a significant difference. A more relevant percentage of tourists visited places close to Disney (24%) because a great part of them visit Paris (20%), whereas few tourists visited places close to Futuroscope (13%) and 88% of them chose car.

49 We have also estimated what are the variables influencing tourists visiting other places close to Disneyland and to Futuroscope. Also for this model, a regression approach has been followed.

50 In Table 10 the variables description is reported for the Disneyland model.

Table 10. Variables specification for Disneyland.

MODE_DISNEY_METRO	Equal to 1 if the tourist used the subway to go to Disney; 0 otherwise.
NIGHT_PARIS	Number of night spent by tourists during the stay in Paris.
ORGA_FORM_ACC	If the tourist has organized his travel buying a package which includes the accommodation; 0 otherwise.
OTHER_DEST	Equal to 1 if the tourist visited or is visiting other destination outside the metropolitan area of Paris
PS2	Equal to 1 if the tourist is a freelance; 0 otherwise.
TRAV_ALONE	Equal to 1 if the tourist is travelling alone; 0 otherwise.
HIGHER EDUCATION	Equal to 1 if the tourist holds a university degree; 0 otherwise.
VISIT_CRITER_MULTI	Equal to 1 if the tourist has come to Disney for the possibility to visit more than one place; 0 otherwise.

51 Estimation results are described in Table 11.

Table 11. Estimation results for Disneyland.

Dependent variable: probability of visiting other places than Disneyland			
Variable	**Coefficient**	**T-Value**	**Vif**
MODE_DISNEY_METRO	0.249	7.567	1.055

NIGHT_PARIS	0.212	6.295	1.109
ORGA_FORM_ACC	-0.072	-2.218	1.033
OTHER_DEST	0.176	5.457	1.013
PS2	-0.065	-1.993	1.051
TRAV_ALONE	-0.071	-2.169	1.034
HIGHER EDUCATION	0.089	2.686	1.068
VISIT_CRITER_MULTI	0.402	11.893	1.115
WILL_RETURN_DISNEY	-0.068	-2.113	1.023

Source: authors' elaborations based on the surveys in 2013

52 As for the previous model, the estimation analysis reported for Disneyland (and the next one for Futuroscope) provide statistical inferences and allow catching the weight of each variable on tourists' choices. The tourists who are more likely to visit other places close to Disneyland for tourism purpose have the following characteristics: they were not freelance and hold a higher education degree. They did not travel alone and have not organized their travel buying a package (including the accommodation) and they would not return to Disney. They used subway to go to Disney, they came to Disney for the opportunity to visit more than one place, i.e. other destinations and they spent some night in Paris[24].

53 In Table 12 the variables description is reported for Futuroscope.

Table 12. Variables specification for Futuroscope.

VISIT_CRITER_PC_TOURISM	Equal to 1 if the tourist has come to Poitou-Charentes for tourism purpose in general; 0 otherwise.
DISTANCE_3	Equal to 1 if the tourist place of residence is located more than 5 hours by car; 0 otherwise.
VISIT_POITIERS	Equal to 1 if the tourist visited or is visiting Poitiers; 0 otherwise.
VISIT_ROCHELLE	Equal to 1 if the tourist visited or is visiting Rochelle; 0 otherwise.
TOT_TRAV_NIGHT_PC	Number of night spent by tourists during the stay in Poitou-Charentes
OTHER_MODE_PC_BUS	Equal to 1 if the tourist used other mean of transport to visit places close to Poitou-Charentes; 0 otherwise.
TRANSPCRIT_MULTI_DEST	Equals to 1 If the possibility to reach other site close to Futuroscope has influenced the tourist in the choice of transport mode; 0 otherwise.

54 In Table 13 the estimation results are described.

Table 13. Estimation results for Futuroscope.

Dependent variable: probability of visiting other places than Futuroscope			
VARIABLE	**COEFFICIENT**	**T-VALUE**	**VIF**
VISIT_ROCHELLE	0.700	12.983	1.189
VISIT_POITIERS	0.748	19.383	1.193
TOT_TRAV_NIGHT_PC	0.056	5.111	1.365
TRANSPCRIT_MULTI_DEST	0.083	2.259	1.193
VISIT_CRITER_PC_TOURISM	0.263	5.005	1.266
OTHER_MODE_PC_BUS	0.421	2.628	1.168
DISTANCE_3	-0.067	-2.634	1.096

Source: authors' elaborations based on the surveys in 2013

55 The tourists who are more likely to visit other places close to Futuroscope for tourism purpose have the following characteristics: they came in Poitou-Charentes for tourism purpose and not only because of the interest in the park. They came by bus, allowing visiting other places, and their residence place was located less than 5 hours travelled by car. They visited La Rochelle and Poitiers and the number of nights spent during the stay in Poitou-Charentes is linked with the probability to visit other places close to Futuroscope[25].

56 The diffusion process is very different in both cases but from the statistical point of view the HSR has not an impact on this process. In Disneyland, the probability of visiting other places is linked to the proximity of Paris- which is one of the world most visited cities- and the possibility to use suburban train. Concerning Futuroscope, the diffusion process depends more on car for two reasons. First, for a long time Futuroscope station was not served by other trains. Second, attractions near Futuroscope are low, remote and more dispersed in a rural area.

Conclusions and further perspectives

57 The objective of this paper has been that of identifying the role of HSR in theme park destination choice. If there is a growing literature on the link between HSR and the tourism market, the results are controversial. Previous studies show that this link is quite heterogeneous. The surveys proposed confirm this point. Only few tourists have visited Futuroscope by HSR and they would have come without HSR. Moreover the tourists visiting other places near Futuroscope have not chosen HSR. The link between Futuroscope and more generally tourism in the region and HSR is not very significant.

58 Nevetheless Futuroscope TGV station could also be useful for the Futuroscope technopole. Moreover in December 2014 a TER link, i.e. a regional train was inaugurated in the station. It is likely that in the future, the diffusion process will be more significant. However the question is to know what will be the service at Futuroscope station after the future HSL South Europe Atlantic (SEA) opening. Indeed, despite the agreement (see above) the service quality is still discussed today[26].

59 Concerning Disney, the link is more significant. Tourists coming by HSR are numerous and would not have come without HSR. Nevertheless the diffusion process is not linked to HSR. The probability of visiting other places is linked to RER and also to the proximity of Paris which allows visiting different places.

60 The surveys highlight that the accessibility to HSR has not always had an impact on the theme park destination choice. It definitely contributes to a better understanding concerning the heterogeneity of the wider effects of HSR on tourism according to places. Once again, having HSR is not enough, the quality of the services is also very important. Moreover, the location in a larger tourist area plays a significant role. The characteristics of a given destination always remain the attracting factors! Expectations concerning the effects of HSR must be discussed when cities should pay to obtain this service. These surveys should be improved by other interviews in the future, for instance during summer. Moreover it will be very interesting to propose further work on other case studies in Europe, for example in Spain, with Portaventura Park or at Gardaland in Italy.

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NOTES

1. We have chosen to not distinguish tourism and excursion in this article because in our survey, the variable "transport mode" is not linked with the variable "length of stay" (more and/or less than a day).
2. In 2013 Futuroscope is the 5th park in terms of attendance in the international classification.
3. SNELAC is a professional organization representing recreation sites. http://www.snelac.com/
4. Source: Les Échos, 13 June 2000. Available at http://www.lesechos.fr/13/06/2000/LesEchos/18171-020-ECH_la-gare-d-euro-disney-n-accueille-que-4-000-voyageurs-par-jour.htm [Accessed May 2016].
5. The department is an intermediate French administrative unit between the region and the municipality.

6. An urban area is a French statistical unit defined by the National Statistical Institute (INSEE), which corresponds to a zone encompassing an urban area of built-up growth and its commuter belt (INSEE).

7. http://www.insee.fr/fr/themes/tableau.asp?reg_id=99&ref_id=t_5001R; Note that all stays are not necessarily tourist stay.

8. This ranking is challenged by other cities such as London or Bangkok (Mastercard Global destination cities Index 2014).

9. This service has been extended to a further eight stations in the north and west of France: Tourcoing, TGV Haute Picardie, Nantes, Rennes, Le Mans, Angers, Roissy Charles de Gaulle TGV et Massy TGV, in December 2015.

10. RFF was the France's rail infrastructure manager between 1997 and 2014. It was then re-integrated into SNCF as SNCF Réseau.

11. "Convention relative à la desserte ferroviaire des gares de Châtellerault, du Futuroscope, de Poitiers, d'Angoulême et de Libourne", available at http://www.lavienne86.fr/182-lgv-sea-vienne.htm (in French, retrieved 04.07.2016). The agreement was signed by the State, local and regional authorities, and the railway infrastructure manager (RFF at the time).

12. Since December 2014, 22 regional trains (TER) per day call at Futuroscope.

13. Some trains are B-trains.

14. Additional connections (Marne-laVallée-Chessy, Roissy-Charles-de-Gaulle) may exist including summer holidays. Direct connections with Lille and Strasbourg are only from Futuroscope.

15. January 2013. Source: computed from OAG datasets.

16. Source: Poitiers Airport.

17. Comparison with national figures is not presented because no similar, nation-wide data is available; in addition, the sample includes foreigners.

18. I.e. independent worker.

19. This justifies why not all the variables listed are reported in each model.

20. An organized group is a group with different men and women who travel together without necessarily be relatives. An organized travel is a travel organized by a man or a woman who buy for example the transport ticket and the ticket for the Park in a package.

21. The models have a good explanatory power R^2= 0.564; R^2_{adj} = 0.558 for Disneyland and R^2 =0.788; R^2_{adj}= 0.785 for Futuroscope, all parameters are highly significant and there is no multicolinearity problem, as evidenced by the Variance Inflation Factor (VIF) values among independent variables.

22. One quarter of the tourists who travelled by HSR in Futuroscope consider that the promotional offer has influenced him/her (Beaumont, 2014).

23. As mentioned above there were no other types of rail alternatives at Futuroscope station.

24. This Model 2 has a good explanatory power (R^2=0.433; R^2_{adj} =0.423) all parameters are highly significant and there is no multicollinearity problem (VIF) among independent variables

25. This Model has a good explanatory power (R^2=0.704; R^2_{adj}=0.699), all parameters are highly significant and there is no multicollinearity problem (VIF) among independent variables.

26. http://www.lavienne86.fr/cms_viewFile.php?idtf=4135&path=f4%2F4135_706_MOTION-LGV-SEA.pdf

ABSTRACTS

There is a growing but controversial literature concerning the link between high-speed rail (HSR) services and the tourism market. The aim of this paper is to identify this link in the case of two theme parks, namely Disneyland Paris and Futuroscope Parks, both served by an HSR station. Two revealed preference surveys were carried out interviewing tourists at both stations, with the objective of investigating the influence of HSRs on their decision to visit these theme parks. The results significantly diverge. In the case of Disneyland, tourists declared that the presence of HSR was fundamental in the choice of the destination; they would not have come without it. On the contrary, in the case of Futuroscope, tourists stated that HSR was not relevant. Indeed they would have come to Futuroscope in any case, also without this service. Moreover, the link between HSR and visiting other places close to these parks is also very different. These two case studies show again that the relationship between HSR and the local economic development in general and tourism in particular is very different according to places. HSR does not always contribute to the tourism market even in the case of a "stay tourism".

Si une littérature abondante se développe concernant le lien entre desserte ferroviaire à grande vitesse et tourisme, les résultats sont très controversés. L'objectif de cet article est d'identifier ce lien dans le cas de deux parcs à thème, Disneyland Paris et le Futuroscope, tous deux desservis par une gare TGV. Deux enquêtes fondées sur les préférences révélées ont été menées auprès de touristes pour tester l'influence de la desserte ferroviaire à grande vitesse sur leur décision de venir dans le parc à thème. Les résultats divergent fortement. Alors que dans le cas de Disneyland, la grande vitesse ferroviaire est importante puisque les touristes ne seraient pas venus sans elle, ce n'est pas le cas du Futuroscope : les touristes seraient venus même sans la desserte. Par ailleurs le lien entre la desserte et le fait de visiter d'autres lieux proches des parcs est aussi très différent. Ces deux cas montrent à nouveau que le lien entre la grande vitesse ferroviaire et le développement économique en général et le tourisme en particulier est très différent selon les lieux : la grande vitesse ne bénéficie pas toujours au tourisme même dans le cas d'un tourisme de destination.

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Mots-clés: desserte ferroviaire à grande vitesse, Parcs à thème, marché du tourisme, choix de destination
Keywords: high-Speed Rail service, theme parks, tourism market, destination choice

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